

# PATENT COOPERATION TREATY

## PCT



### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 03 FEB 2005

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Applicant's or agent's file reference <b>MAYEXDISPCUP</b>		<b>FOR FURTHER ACTION</b> See Form PCT/PEA/416	
International application No. <b>PCT/HU2004/000034</b>	International filing date (day/month/year) <b>13.04.2004</b>	Priority date (day/month/year) <b>18.04.2003</b>	
International Patent Classification (IPC) or national classification and IPC <b>B65D47/20, B05B11/00</b>			
Applicant <b>MAYEX USA INC.</b>			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 6 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand <b>15.11.2004</b>		Date of completion of this report <b>02.02.2005</b>	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  <b>Bevilacqua, V</b> Telephone No. +49 89 2399-7983 	

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/HU2004/000034

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

5-8	as originally filed
1-4	as amended (together with any statement) under Art. 19 PCT

**Claims, Numbers**

8-10	as originally filed
1-7	as amended (together with any statement) under Art. 19 PCT

**Drawings, Sheets**

1/2-2/2	as originally filed
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- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☒ the description, pages 3
  - ☒ the claims, Nos. 1
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

**Re Item I**

**Basis of the report**

The amendments filed with the International Bureau under Article 19(1) introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 19(2) PCT. Claim 1 and the first paragraph of page 3 of the description contain the statement that the end of the fixing member is "preferably forked" instead of, as it was originally disclosed "advantageously forked".

The possibility that the end of the fixing member is not forked was not originally disclosed and has now been introduced in claim 1 and in the description, therefore contravening Article 19(2)PCT.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

The following documents are referred to in this communication:

- D1: US-a-6 036 170 (PITOCCO ROBERTO JOSE) 14 March 2000 (2000-03-14)
- D2: US-a-5 894 962 (SONG CHRISTOPHER CHAN-WOO ET AL) 20 April 1999 (1999-04-20)
- D3: US-a-4 995 534 (NORMAN RICHARD O) 26 February 1991 (1991-02-26)
- D4: US-a-4 795 044 (BECK JAMES M) 3 January 1989 (1989-01-03)
- D5: US-A-6 390 022 (LOONEY J.)21 May 2002 (2002-05-21)

Document D1 discloses (see figures 3-5 and from column 3 line 10 to column 4 line 53): a dispensing cap for bottles consisting of a lower mounting part (3) fixed onto the neck of a bottle, an upper covering part (2) containing the dispensing parts such as valve (9) and opening members (15), sealing elements (6) between the cap and the bottle, outlet (4) for pouring liquid , tube support (22) and an irreversibly removable fixing member (17) preventing dispensing.

D1 discloses a dispensing cap from which the subject-matter of claim 1 differs in that the outlet consists of an outlet base belonging to the mounting part and an outlet "over" belonging to the cover and the valve and the opening elements consist of a valve case belonging to the mounting part and and a valve belonging to the cover.

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(SEPARATE SHEET)**

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The problem to be solved by the present invention may therefore be regarded as how to avoid sliding parts in the injection mold used to produce the cap.

The solution to this problem proposed in claim 3 of the present application is considered as involving an inventive step (Article 33(3) PCT) because none of the documents cited in the search report shows an outlet realized in two parts, one belonging to the cover and the other belonging to the mounting part, in fact D3 and D4 show dispensing caps realized by at least two elements, but none of them shows an outlet formed by two parts, one belonging to the mounting part and one belonging to the cover.

The expression "if necessary" used in claim 1 implies that the subject-matter for which protection is sought may be extended arbitrarily, thereby resulting in a lack of clarity of claim 1 (Article 6 PCT).

The "cover wall" and the "parallel downward directed inner wall" referred to in claim 5 are not defined in any of the claims 1 to 4 from which claim 7 depends, thereby resulting in a lack of clarity of claim 5.

## DISPENSING CAP

The subject-matter of the application is a dispensing cap for bottles consisting of a lower mounting part fixed onto neck of bottle, a cover containing the dispensing parts, sealing elements between the cap and the bottle for gas-proof  
5 sealing, outlet for pouring liquid, tube support for holding tube, an irreversibly removable fixing member preventing the dispensing, and known completing elements if necessary.

There is an endeavor to diminish loss of carbon dioxide content of the rest part  
10 of carbonated soft drinks as much as possible to prevent loss of quality. For this purpose plastic dispensing heads similar to those of old soda water bottles are coming into use. The Hungarian patent specification HU 214.254 relates to a plastic dispensing head closing the bottle dispensing the fluid content and being  
15 not higher than a simple screw cap. This solution provides a cheap disposable product for usage once but not protected against repeated usage. A safety ring closing on the neck of bottle torn from the cap at first opening is used to show that the original bottle has been opened. This is not applicable for dispensing heads or caps because they are not taken from the bottle but dispense the liquid. It does not prevent from partial dispensing of liquid but shows unauthorized  
20 opening of connection between the bottle and dispensing head. In the US.Pat. 6,036.170 is used an foldable arm with an strap in order to actuate the valve. For delivering the carbonated liquid it is first necessary to release the said strap. The strap, however, makes taller the cup, and the foldable arm is delicate for breaking. The outlet's open is closed, and it must break before  
25 the first use according to the US.Pat. 5,894.962. This method does not inhibit direct to actuate the valve assembly, only indirect by the closed opening. The EU.Pat. 0 420 561 let us know a dispensing head solution wherein the actuator element is hinged to the rest of the head. Upon first use, the user will need to exert enough pressure on the actuator element to break the bridge so as to allow  
30 the actuator element to be depressed. This last solution does not show enough conspicuous the previous opening for the consumers.

5 The solution of the present application aims to develop a flat or low dispensing cap for soft drink bottles being sufficiently cheap to be disposable and protecting against unauthorized opening of bottle, as well as partial dispensing of liquid.

The solution is based on the creative recognition that the cap should consist of one part without complementing elements in order to be cheap enough to be disposable. It may be molded or die-cast in a single mold. The mold is complicated causing higher cost once but the assembly cost is reduced.

10 Another creative recognition establishing the solution is that preventing pressing down the dispensing unit may eliminate unauthorized usage. If the preventing part is taken away the packaged product is obviously not untouched. A further creative recognition is that the lower fixing part on the neck of bottle, the covering part thereon and the fixing member preventing dispensing should

15 be made connectedly as one piece then all envisaged tasks are fulfilled and a new result not following from the state of art is reached.

The inventive solution based on the mentioned recognition is a dispensing cap for bottles consisting of a lower mounting part fixed onto neck of bottle an upper covering part containing the dispensing parts such as valve and opening

20 members of bottle, part sealing elements between the cap and the bottle for gas-proof sealing, outlet for pouring liquid, tube support for holding the tube of siphon structure, an irreversibly removable fixing member preventing dispensing, and known completing elements if necessary. The dispensing cup according

25 to application has the characteristic feature that its outlet consists of an outlet base belonging to the mounting part and an outlet over belonging to the cover, furthermore the opening elements consist of a valve case belonging to the mounting part, and a valve belonging to the cover, wherein the cover is provided with a holding tube surrounding the valve case, but does not reach

30 the upper level of the valve case, the fixing member is in the outlet and having

an once breakable joint to the upper outer end of the outlet over, passing under the holding tube, being supported by the valve case and its -- preferably forked -- end surrounds the valve.

- 5 The dispensing cap described in the application has the advantageous characteristic feature that the mounting part, the cover, and the fixing member are joined together and assembled into dispensing cap using any known connecting structure, like dowel holes are formed in the mounting part and dowel pins entering the dowel holes are formed in the cover to join permanently together the  
10 lower and upper parts of the dispensing cap.

- The dispensing cap described in the application has the advantageous characteristic feature that the mounting part comprises a cylindrical shell tightly seating on the neck of bottle having an inwardly directed fixing flange on its lower  
15 end, which joins permanently under the outside flange of the neck of bottle after mounting.

- The dispensing cap described in the application has the advantageous characteristic feature that the mounting part is provided with an inwardly directed  
20 flange elastically seating from outside to the neck of bottle and a sealing stub entering the mouth of bottle and elastically seating from inside to it.

- The dispensing cap described in the application has the advantageous characteristic feature that the mounting part is provided with an upward directed collar on its border seating in the groove formed by the cover wall and the parallel  
25 downward directed inner wall.

- The dispensing cap described in the application has the advantageous characteristic feature that a diaphragm is shaped by reducing the thickness of the top  
30 of cover around the valve and complemented with a projection surrounding it partly or wholly.



The dispensing cap described in the application has the advantageous characteristic feature that the mounting part, the cover, and the fixing member are manufactured as one piece i. e. they are connected in the process of manufacturing.

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The invention for which protection is sought is described below using the attached figures but without any limitation to the applicability of the solution or the extent of protection to the shown examples of embodiment.

## 10 Figures

Figure 1: Lateral section of an advantageous construction of the dispensing cap according to application.

Figure 2: Section of the dispensing cap shown in the Figure 1 along II – II.

Figure 3: A simplified view of the dispensing cap shown in the Figure 1 from the side of outlet.

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Figure 4: Schematic drawing of an advantageous embodiment of the dispensing cap according to application in extended state before closing.

Figure 5: Schematic drawing of the connection between the cover and the fixing member.

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The dispensing cap 10 consists of a mounting part 1 and a cover 2 having a fixing member 27 inside (see Figures 1 and 2). The mounting part 1 is substantially a hollow cylindrical body comprising the outlet base 11 for pouring out the liquid and being closed by a disc 101 with a hole in the center. The cover 2 containing the outlet over 21 is a part completing and closing from above the mounting part 1 (see Figure 3). As shown, the dispensing cap 10 consists of two connected precisely matching parts. The Figure 4 shows that parts of the dispensing cap 10 are manufactured connected together as one piece. The mounting part 1 the cover 2 and the fixing member 27 are shown in the Figure 4 from left to right. The dispensing cap 10 is formed in such a way that the fixing member 27 is folded into the cover 2 then the latter is folded

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## Claims

1. A dispensing cap for bottles consisting of a lower mounting part fixed onto neck of bottle, an upper covering part containing the dispensing parts such as valve and opening members, sealing elements between the cap and the bottle for gas-proof sealing, outlet for pouring liquid, tube support for holding the tube of siphon structure, an irreversibly removable fixing member preventing dispensing. and known completing elements if necessary, **characterized by** that its outlet consists of an outlet base (11) belonging to the mounting part (1) and an outlet over (21) belonging to the cover (2), furthermore the opening elements consist of a valve case (12) belonging to the mounting part (1), and a valve (22) belonging to the cover (2), wherein the cover (2) is provided with a holding tube (25) surrounding the valve case (12), but does not reach the upper level of the valve case (12), the fixing member (27) is in the outlet and having an once breakable joint to the upper outer end of the outlet over (21), passing under the holding tube (25), being supported by the valve case (12) and its -- preferably forked -- end surrounds the valve (22).
2. The dispensing cap according to Claim 1 characterized by that the mounting part (1), the cover (2), and the fixing member (27) are joined together and assembled into dispensing cap (10) using any known connecting structure, like dowel holes (41) are formed in the mounting part (1) and dowel pins (42) entering the dowel holes (41) are formed in the cover (2) to join permanently together the lower and upper parts of the dispensing cap (10).
3. The dispensing cap according to any of preceding Claims characterized by that the mounting part (1) comprises a cylindrical shell tightly seating on the neck of bottle having an inwardly directed fixing flange (17) on its lower end, which joins permanently under the outside flange of the neck of bottle after mounting.

4. The dispensing cap according to any of preceding Claims characterized by that the mounting part (1) is provided with an inwardly directed flange (15) elastically seating from outside to the neck of bottle and a sealing stub (16) entering the mouth of bottle and elastically seating from inside to it.
5. The dispensing cap according to any of preceding Claims characterized by that the mounting part (1) is provided with an upward directed collar (18) on its border seating in the groove (28) formed by the cover wall (24) and the parallel downward directed inner wall (26).
- 10 6. The dispensing cap according to any of the preceding Claims characterized by that a diaphragm (23) is shaped by reducing the thickness of the top of cover (2) around the valve (22) and complemented with a projection (29) surrounding it partly or wholly.
- 15 7. The dispensing cap according to any of preceding Claims characterized by that the mounting part (1), the cover (2), and the fixing member are manufactured as one piece i. e. they are connected in the process of manufacturing.